

## **REMARKS**

Applicant's representatives have carefully reviewed the Office Action outstanding in the present application, and in response thereto have amended claim 24 to incorporate claims 25 and 26, have cancelled claims 25-27, have amended claim 29 to incorporate subject matter from indicated allowable claim 39, have cancelled claim 31, have amended claim 37 to incorporate the subject matter of indicated allowable claim 39, and have cancelled claims 38 and 39. In view of these revisions and the following comments, it is believed that the present application is now in condition for allowance, and accordingly favorable reconsideration is respectfully solicited.

The indicated allowability of claim 39 is noted with appreciation. Claim 37 has accordingly been amended to incorporate claims 38 and 39, thereby clearly placing claim 37, as well as dependent claims 40 and 41, in condition for allowance.

Claim 24 has been amended to incorporate the features of claims 25 and 26. These claims have been rejected under 35 USC 103 as being unpatentable over Jackson et al. (U.S. 7,050,629) in combination with Gath et al. (IEEE, July 1989) and Rimey (IEEE, June, 1988).

Jackson is said in the Office Action to disclose only two features of original claim 24, those of (1) generating a multiple pixel output signal and (2) analyzing the image content of that signal using a spectral transformation method. The Office Action admits that none of the remaining features of original claim 24 or the claims dependent on it are found in this reference. The Office Action asserts that the secondary references to Gath and Rimey could somehow be combined with Jackson to produce the present invention as claimed, but provides no indication of how that might be accomplished. It is respectfully

submitted that the asserted combination, in fact, is without foundation in any teaching of the art, but is simply the result of full and total reliance on Applicant's own teachings. Applicant's own invention, however, cannot be the basis for rejecting Applicant's claims.

The patent to Jackson is directed to indexing and retrieving pixel data. In the described process, print media is scanned to produce corresponding pixel data which is stored in memory. The data is then separated into two categories: background and foreground data. The background data is considered noise, and is discarded, while the foreground data, which contains a series of connected pixel data segments representing desired data (such as alphabetic characters), is synthesized to identify these data segments. Each identified segment has spatial features which may be made "invariant" with respect to other features, so that the particular invariant feature can always be derived in any subsequent sample of the same segment. The invariant features may be translational, rotational and scaling mathematical normalizations of the segment features, and these are used, in accordance with the Jackson patent, to extract "data store keys." In this way, a segment is associated with a plurality of invariant features and data store keys.

Once the invariant features and keys are extracted for each segment, the data is indexed and stored.

Jackson has nothing to do with the method of the present invention, which is directed to the evaluation of an image sensor in the course of pattern recognition by analyzing the contents of a pixel window within an image of a test body. An output signal representing the window is converted into at least one translationally invariant characteristic value which is then fuzzified by weighting the value with an indistinct affiliation function. The signal is then defuzzified and a sympathetic value is determined,

which is compared to a threshold value to obtain a class application. This has nothing to do with indexing an image for storage purposes, and the fact that both Jackson and the present invention happen to utilize, as a part of their distinct processes, a single similar step of obtaining an invariant characteristic value, does not make Jackson relevant to the claimed invention. These distinctions between Jackson and the presently claimed invention are acknowledged, at least in part, in the Office Action.

Gath is directed to an algorithm for fuzzy classification of data into an optimal number of clusters, with the algorithm accounting for variability in cluster shapes, densities, and the number of data points. There is nothing in Gath that would suggest that such an algorithm would have any use in the Jackson method and system; the only reason Gath is selected is because it happens to discuss the use of “fuzzy logic.” But that is not enough to suggest its use in Jackson, or to teach anyone how to modify Jackson to obtain Applicant's invention.

The combination of Gath and Jackson, as set out in the Office Action, is purely arbitrary, and it is respectfully submitted that the use of the fuzzy cluster classification in Jackson not only would add nothing to the Jackson indexing system, but could well make the Jackson system unusable. Certainly neither Jackson nor Gath suggest that the Jackson system should be modified by the use of the Gath algorithm, and no teaching of either reference suggests that such a modification of Jackson would result in the present application, as claimed.

The Office Action admits that the teachings of Jackson and Gath, even if combined, still would not suggest applicant's claimed invention, and relies on the teachings of Rimey for the missing features. However, Rimey has no relationship to either

the present invention or the methods of either Jackson or Gath, and accordingly the combination not only is inappropriate, but cannot result in the present invention.

Rimey is directed to a method of analyzing surface shapes through the use of 3-dimensional range data. Although a window of data is used by Rimey, it is for the purpose of defining a planar surface, and thus these windows are not relevant to either the fuzzy clustering of data by Gath or the pixel data of Jackson. There is no reason given in any of these references for using the windows function of Rimey in either Jackson or Gath, and certainly there is no teaching that this should be done. Furthermore, not a single thing is said in any of these references that would lead a person of ordinary skill to conclude that any combination of any features of these three references would result in the present invention or in any claim of the present application. The combination asserted in the Office Action is simply without support in these references.

For example, the assertion in the Office Action that the teaching of Rimey concerning “square x-y windows” somehow suggests the claimed division of an image of a test body into a group of NxN grid-like windows each of a size of NxN pixels is simply not supported by Rimey. And even if it were, that would not be a suggestion that such a feature would have any use whatsoever in Jackson, or in Jackson modified by Gath. The selection of random features from three distinct references, none of which relate to each other or to the invention being claimed, and the assembly of these features following the directions of applicant’s claims, is not the equivalent of a teaching of the invention in the prior art.

With respect to claim 24, the assertion that “one would have expected Applicant’s invention to perform equally well with either the more general grid arrangement taught by

the combination of Jackson, Gath and Rimey or the claimed group of NxN grid-like windows...” is not only an admission in the Office Action that the combined references do not teach the claimed invention, but is an assertion that cannot be supported by the actual teachings of the references. A mere assertion of obviousness does not make it so.

Furthermore, claim 24 as now presented, incorporates a series of process steps, incorporating steps from prior claims 25 and 26, that simply are not taught in the references themselves. The quotation in the Office Action of selected parts of the secondary references does not constitute a teaching of the claimed invention, for the selected parts have no relationship to the whole invention being claimed. They are just that: a collection of disparate parts and pieces of various disclosures that have been assembled following the blueprint of the claims, without regard for the actual teachings of the references.

Claims 25, 26, 27 and 31 have been cancelled.

Claim 29, which is dependent on claim 24, incorporates the adjustability of the invariant property of claim 39, and is believed to be patentable.

Claims 28, 30 and 32-36 are dependent on claim 24, adding features not found in the references of record.

Claim 37 has been rewritten to incorporate claims 38 and indicated allowable claim 39, thus placing claim 37 in condition for allowance. Claims 38 and 39 have been cancelled, while claims 40 and 41 depend from now-allowable claim 37 and are also allowable.

Favorable reconsideration and allowance of the application are respectfully


solicited.

Respectfully submitted,

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